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BISNIS Search for Partners – Leads from the BioIndustry Initiative

**INDUSTRY: MEDICAL
EQUIPMENT AND
PRODUCTS,
PHARMACEUTICALS,
HEALTH CARE
SERVICES**

**COMPANY /
INSTITUTE:**

Shemyakin-Ovchinnikov Institute
of Bioorganic Chemistry RAS,
Moscow www.ibch.ru

COUNTRY: Russian
Federation

**Contact the
BioIndustry
Initiative:**

Maria Douglass
Deputy Program Director,
Accelerated Drug & Vaccine
Development
BioIndustry Initiative
www.biistate.net
EurasiaBio2006@biistate.net
tel. 1.703.298.1276

MULTI-EPITOPE RECOMBINANT VIRUS-LIKE PARTICLE BASED VACCINE FOR THE PREVENTION AND TREATMENT OF COW MILK ALLERGY

ABSTRACT: Allergy is a worldwide problem found in 15-30% of the population of the developed countries. Food allergy, which is usually formed early in childhood, can trigger respiratory hypersensitivity reactions. It has been shown that 54% of children with food allergy develop asthma or atopic dermatitis later. Among food allergens, cow milk is one of the most important allergens. Diets that avoid consumption of milk to prevent allergy progression can cause a severe nutritional imbalance. The Institute has developed a peptide vaccine based on recombinant yeast virus-like particles (VLP), which express 4 peptides from beta-lactoglobulin (BL) and lactalbumin (LA), the major allergens from cow milk. Our data suggests that it is possible to prevent allergy formation to cow milk through immunization of children with the VLP vaccine. This can prevent allergy progression to asthma and atopic dermatitis induced by respiratory, fungal and environmental allergens. The vaccine design and the efficacy of this approach have already been demonstrated for *Aspergillus fumigatus* and house dust mite allergy in mouse models. The technology includes: i) selection of 4 cryptic B-cell epitopes from BL and LA; ii) expression of selected peptides in VLP form using synthetic DNA; iii) formulation of the vaccine with specific adjuvants mediating vaccine mucosal delivery.

TYPE OF PARTNERSHIP OFFERED: Licensing and partnering on clinical development and regulatory approval in major Western markets.

COMPANY / INSTITUTE ROLE: Partnership on clinical trials design, provision of experimental data sets, licensing of vaccine design / methods.

CURRENT STATE OF DEVELOPMENT: Preclinical.

INTELLECTUAL PROPERTY STATUS: Both vaccine design and adjuvant content have been protected by the Institute as confidential information, and may be patented.

OTHER INFORMATION

Institute representatives will be attending BIO2006 (Chicago, April 9 – 12, 2006) and welcome the opportunity to meet with interested parties during the event. For more information:

<http://www.biistate.net/docs/bio2006.php> or email:

EurasiaBio2006@biistate.net

ABOUT COMPANY / INSTITUTE: The Institute specializes in the chemistry and molecular engineering of proteins, nucleic acids, carbohydrates and low molecular bioregulators; novel biologically active substances; mechanisms of biomolecular recognition and signal transduction in biological systems; molecular immunology; enzymology; and biotechnology. The Institute operates a modern pilot plant for chemical and microbiological synthesis of pharmaceutical products. Established in 1959, IBCh RAS is one of Russia's premier research institutions focusing on the molecular mechanisms of disease for developing novel drug therapies. The Institute employs about 800 employees, including 536 highly qualified researchers, 38 Doctors and 264 Candidates of Science. IBCh is also an educational institution, offering postgraduate programs in physicochemical biology and biotechnology to over 70 graduates of the Moscow State University and the Institute of Physics and Technology, among others. The most promising post-graduate students are retained by the institute to continue their research. R&D efforts at the Institute focus on:

- Structure and function of proteins and peptides, and biocatalysis;
- Structure and function of nucleic acids, and genetic engineering processes;
- Structure and function of carbohydrates, lipids and low molecular weight bioregulators;
- Mechanisms of biomolecular recognition and signal transduction in biological systems;
- Molecular and cellular bases of immunity; and
- Design of tools, methods, reagents and materials for biotechnology

MAJOR CUSTOMERS / INTERNATIONAL EXPERIENCE: The Institute has extensive experience with commercial contracts and international grants from organizations such as the International Science & Technology Center (www.istc.ru) and the US Civilian Research & Development Foundation (www.crdf.org), among others.

PARTNERSHIP OPPORTUNITIES FROM BII. The BioIndustry Initiative (BII) is a nonproliferation program of the US Department of State's Bureau of International Security and Nonproliferation - Office of Cooperative Threat Reduction (ISN-CTR). BII's mission is to counter the threat of bioterrorism through targeted transformation of former Soviet biological weapons research and production capacities.

DISCLAIMER. The leads are sourced by the BioIndustry Initiative through our partner organizations in Russia and other Eurasian countries. Leads are provided solely as an information resource and do not represent an endorsement by BII or the U.S. Departments of State and Commerce. Verification of the leads is the responsibility of the reader. Assistance conducting due diligence and negotiations with Eurasian companies/institutes may be provided in some cases. Contact BII for more details: bii@biistate.net.